

# Neozine®

Silver Sulfadiazine 1% w/w

## Description

Silver Sulfadiazine (Neozine®) is a sulfonamide that has broad antimicrobial activity against Gram-positive and Gram-negative bacteria including *Pseudomonas aeruginosa*, and some yeasts and fungi. Silver Sulfadiazine has a bactericidal action; in contrast to sulfadiazine, the silver salt acts primarily on the cell membrane and cell wall and its action is not antagonized by p-aminobenzoic acid.

## Mode of action

As Silver Sulfadiazine (Neozine®) is relatively insoluble it reacts very slowly with the chloride and protein components of tissue exudates to form silver chloride, silver protein complexes and sodium sulfadiazine. Sulfadiazine now exerts its bacteriostatic effect and is very slowly absorbed. The mechanism for silver ion release is complex, but silver chloride is very slightly soluble and slowly releases silver ions, which are then free to exert their bactericidal effect. These silver ions are thought to be reversibly adsorbed by bacterial cells by association with SH groups or histidine residues in the bacterial protein of the transport system across the cell wall. thus silver sulfadiazine acts as a sustained release depot of silver and sulfadiazine at the wound surface.

## Pharmacokinetics

Silver Sulfadiazine (Neozine®) slowly releases Sulfadiazine when in contact with wound exudates. Up to about 10% of the Sulfadiazine may be absorbed; concentrations in blood of 10 to 20 micrograms/mL have been reported, although higher concentrations may be achieved when extensive areas of the body are treated. Some Silver may also be absorbed.

## Composition

Neozine® 1% w/w Cream: Each gram contains Silver Sulfadiazine USP 10 mg.

## Indications

Neozine® cream is a topical antibacterial agent used for the prevention and treatment of infection in severe burns being particularly effective against Gram-negative organisms such as *pseudomonas aeruginosa* and *pyocyanea*, the most common cause of burn wound infection. It may also be used as an aid to the short-term treatment of infection in leg ulcers and pressure sores, and as an aid to the prophylaxis of infection in skin graft donor sites and extensive abrasions.

## Dosage & administration

Neozine® cream should be applied to a thickness of 3 to 5 mm daily with a sterile gloved hand and may, if desired, be covered by thin gauze dressing. Treatment should be continued till the risk of infection has passed. One container should be reserved for one patient and any remaining cream should be discarded on completion of treatment. In severe burn wounds the cream is reapplied daily.

## Contraindications

Patients with a known sensitivity to Sulphonamides. Silver Sulfadiazine should be

used with care in the presence of hepatic or renal impairment, or when porphyria is suspected.

## Side effects

Allergic reaction (difficulty breathing; closing of the throat; swelling of the lips, face, or tongue; or hives); increased sensitivity to the sun or ultraviolet light; fever, sore throat, or chills; lower back pain or painful or difficult urination; skin rash; worsening redness, swelling, burning, itching, stinging, or pain at the affected area; or unusual bleeding or bruising may occur.

## Use in pregnancy & lactation

Because of the possibility of kernicterus it should not be used by pregnant women near term or by new-born infants. Breastfeeding mother should use it with caution.

## Precautions

Patients should be watched carefully especially if there is a known reaction to sulfonamides. While little silver is absorbed, the plasma concentration of sulfadiazine may approach therapeutic levels, and particular attention must be paid to adequate fluid intake and acid-base balances.

## Drug interactions

Silver Sulfadiazine is not antagonized by p-amino benzoic acid or related compounds, the Silver content of Silver Sulfadiazine may inactivate enzymatic debriding agents.

## Over dosage

Symptoms of an overdose of silver sulfadiazine topical are not known.

## Storage

Store in a cool (Below 25° C temperature) and dry place protected from light.

## Packaging

Neozine® 1% w/w Cream: Tube containing 25 gm cream.

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